west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475 • Fax: (304) 926-0479

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-1975H		
Plant ID No.:	039-00023		
Applicant:	Jacks Branch Coal Company		
Facility Name:	Mammoth Preparation Plant		
Location:	Montgomery, Kanawha County, WV		
SIC Code:	1221 (Bituminous Coal & Lignite - Surface) 1011 (Iron Ores)		
Application Type:	Class II Administrative Update		
Received Date:	March 4, 2015		
Engineer Assigned:	Dan Roberts		
Fee Amount:	$300		
Date Received:	March 12, 2015		
Applicant's Ad Date:	March 13 2015		
Newspaper:	*The Daily Mail*		
Complete Date:	January 20, 2017		
UTM Coordinates:	Easting: 469.2 km	Northing: 4,226.49 km	NAD83 Zone 17N
Lat/Lon Coordinates:	Latitude: 38.182532	Longitude: -81.342204	NAD83
Description:	Class II Administrative Update to add a 50 tons capacity lime silo LS1 and screw conveyor LSC to receive, store and then add the lime onto existing refuse conveyor BC8.		

BACKGROUND

On January 15, 2015, Jacks Branch Coal Company submitted After-the-Fact modification application R13-1975G to "consolidate the full facility into one application, to recalculate the facility potential to emit, and to incorporate as-built changes and replaced equipment into the permit." On March 12, 2015, Jacks Branch Coal Company submitted Class II administrative update application R13-1975H to add a 50 tons capacity lime silo LS1 and screw conveyor LSC to receive, store and then add the lime onto existing refuse conveyor BC8.

On June 25, 2015, application R13-1975G was deemed incomplete and additional information and numerous corrections were requested as well as an updated facility-wide emissions estimate. Application R13-1975H was placed on hold while the company decided how to proceed and pending the receipt of the corrections and updated facility-wide emissions for application R13-1975G. On June 7, 2016, the DAQ received a letter requesting the withdrawal of application R13-1975G. On June 8, 2016, the DAQ acknowledged the withdrawal of application R13-1975G.

On January 20, 2017, I called Patrick Ward of Potesta & Associates and he said the company had just gotten back to him recently with how they wanted to handle the revised application for R13-1975G and that they wanted to proceed with application R13-1975H.

DESCRIPTION OF PROCESS (taken directly from the application)

Jack's Branch Coal Company operates the Mammoth Preparation Plant (Mammoth) located on U.S. Route 60 near Montgomery, Kanawha County, West Virginia. The facility proposes to construct a lime silo and screw conveyor for addition of lime to the refuse pile to aid in the compaction of the pile.

Lime is delivered by truck to silo LS1/DC1 (TPL1/DC1). Emissions from silo loading are controlled by dust collector DC1. Lime transfers (TPL2/FE) toa screw conveyor (LSC/FE) to (TPL3/PE) the existing No. 2 Refuse Belt (BC8/PE).

There are no changes proposed to the hourly rates or yearly throughputs for the refuse system. Lime addition will be a ton per ton replacement for refuse.

The material safety data sheet shown in Attachment H is representative of lime. Actual suppliers may vary.

The facility shall be modified and operated in accordance with the following equipment and control device information taken from permit applications R13-1975H, R13-1975F, R13-1975E, R13-1975D, R13-1975C, R13-1975C, R13-1975B, R13-1975A (modifying R13-1975 and replacing G10-B021):

Equip-ment ID No.	A, M, R [1]	Year [2]	Description	Maximum Rated Throughputs		Control Equip-ment [2]	Associated Transfer Points		
				TPH	TPY x 10^3 [4]		Location: B -Before A -After	ID. No.	Control Equip-ment [2]
Coal Circuit									
BC2	M	2001	Raw Coal Belt Conveyor	1,400	5,600	PE	B A	TP-1 TP-2	FE FE
BS-1	M	2001	Raw Coal Storage Bin, 1000 tons	NA	5,000	FE	B A	TP-2 TP-3A	FE UC
BS2	M	2001	Raw Coal Storage Bin, 1000 tons	NA	1,000	FE	B A	TP-2 TP-3	FE UC
BC-3	M	2001	Raw Coal Belt Conveyor	1,400	5,600	PE	B B A	TP-3A TP-3 TP-4	UC UC FE

Equip-ment ID No.	A, M, R [1]	Year [2]	Description	Maximum Rated Throughputs		Control Equip-ment[2]	Associated Transfer Points		
				TPH	TPY x 10^3 [3,4]		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
BC-4	M	2001	Raw Coal Belt Conveyor	1,400	5,600	FE	B A	TP-4 WW	FE FE
BC-15	M	2001	Clean Coal Belt Conveyor	900	3,600	PE	B A	WW TP-19	FE FE
RBC-1	M	2007	Clean Coal Belt Conveyor	900	3,600	PE	B A	TP-19 TP-1R	FE PE
RBC-2	M	2007	Clean Coal Belt Conveyor	900	3,600	PE	B A	TP-1R TP-2R	PE PE
RBC-3	M	2007	Clean Coal Belt Conveyor	4,500	3,600	PE	B A A	TP-3R TP-4R TP-7R	FE FE PE
RBC-4	M	2007	Clean Coal Belt Conveyor	4,500	3,600	PE	B A	TP-4R TP-5R	FE FE
BWBS-1	M	2007	Batch Weigh Bin System 370 tons	4,500	3,600	FE	B A	TP-5R TP-6R	FE PE
BC-21	M	2001	Clean Coal Belt Conveyor	500	3,430	PE	B A	TP-19 TP-31	FE PE
BC-22	M	2001	Clean Coal Belt Conveyor	500	3,430	PE	B A	TP-31 TP-32	PE PE
Bin 5	M	2001	Dump Truck Bin	NA	NA	PE/WS	B A	TP-5B TP-5	PE/WS FE
BC-5	M	2001	Raw Coal Belt Conveyor	200	800	PE	B A	TP-5 TP-6	FE WS
SD-1	M	2001	Raw Coal Single Deck Screen	200	800	PE/WS	B A	TP-6 TP-7	WS FE
CR-1	M	2001	Synfuel / Coal Crusher	1,200	4,800	FE	B A	TP-6 TP-7	WS FE
BC-6	M	2001	Synfuel / Coal Belt Conveyor	200	800	PE	B A	TP-7 TP-8	FE FE
BC-16	M	2001	Clean Coal Belt Conveyor	900	3,600	PE	B A	TP-19 TP-20	FE FE
BC-17	M	2001	Clean Coal Belt Conveyor	900	3,600	PE	B A	TP-20 TP-21	FE MC
BC-7	M	2001	Refuse Belt Conveyor	500	2,000	FE	B A	WW TP-9	FE FE
LS1	M	2015	Lime Silo - 50 tons capacity - pneumatically fed by trucks	50	5	FE	B A	TPL1 TPL2	BH-DC1 FE
LSC	M	2015	Lime Screw Conveyor	2	5	FE	B A	TPL2 TPL3	FE PE
BC-8	M	2001	Refuse Belt Conveyor	500	2,000	PE	B A	TP-9 TP-10	FE FE
BC-9	M	2001	Refuse Belt Conveyor	500	2,000	PE	B A	TP-10 TP-11	FE FE
BC-10	M	2001	Refuse Belt Conveyor	500	2,000	PE	B A	TP-11 TP-12	FE FE
BC-11	M	2001	Refuse Belt Conveyor	500	2,000	FE	B A	TP-12 TP-13	FE FE
BC-12	M	2001	Refuse Belt Conveyor	500	2,000	PE	B A	TP-13 TP-14	FE MC
BC-23	M	2001	Refuse Belt Conveyor	500	2,000	PE	B A	TP-13 TP-33	FE PE
BC-24	M	2001	Refuse Belt Conveyor	500	2,000	FE	B A	TP-33 TP-34	PE MC
Bin 7	M	2001	Truck Dump Bin	NA	NA	PE/WS	B A	TP-15A TP-15	WS FE

Equip-ment ID No.	A, M, R [1]	Year [2]	Description	Maximum Rated Throughputs		Control Equip-ment[2]	Associated Transfer Points		
				TPH	TPY x 10^3 [3,4]		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
CR-3	M	2001	Coal Crusher	800	3,200	FE	B A	TP-15 TP-16	FE WS
BC-13	M	2001	Refuse Belt Conveyor	800	3,200	PE	B A	TP-16 TP-17	WS PE
BC-14	M	2001	Refuse Belt Conveyor	800	3,200	PE	B A	TP-18 WW	UC FE
MC17	M	2005	Refuse Belt Conveyor	500	2,000	PE	B A	TP12 TP65	FE PE
MC18	M	2005	Refuse Belt Conveyor	500	2,000	PE	B A	TP65 TP66	PE PE
MC19	M	2005	Refuse Belt Conveyor	500	2,000	PE	B A	TP66 TP67	PE MC
2 North Area									
MC4	M	2005	Cross Hollow Belt	2,000	5,600	PE	B B A	TP35A TP41 TP35B	FE PE PE
MC9	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP35B TP42	PE PE
MC8B	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP39 TP40	PE N
MC7	M	2005	Raw Coal Reclaim Belt Conveyor	2,000	5,600	FE	B A	TP38 TP39	FE FE
MC8A	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP39 TP41	FE FE
MC6	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP35C TP36	FE PE
MC5	M	2005	Raw Coal Reclaim Belt Conveyor	2,000	5,600	PE	B A	TP36 TP37	PE PE
Overland Belt System									
MC10A	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B B B A	TP42 TP61 TP62 TP43	PE PE PE PE
MC10B	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B B A	TP43 TP63 TP44	PE PE PE
MC11A	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B B A	TP44 TP64 TP45	PE PE PE
MC11B	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP45 TP46	PE PE
MC12A	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP46 TP47	PE PE
MC12B	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP47 TP48	PE FE
MS1	M	2005	Raw Coal Silo 20, 000 ton capacity	---	5,600	FE	B A A	TP48 TP50 TP56	FE FE FE
MC13	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP48 TP49	FE FE
MS2	M	2005	Raw Coal Silo 20, 000 ton capacity	---	5,600	FE	B A A	TP49 TP51 TP57	FE FE FE
MC14A	M	2005	Raw Coal Silo Reclaim Conveyor	2,000	5,600	PE	B B A	TP50 TP51 TP52	FE FE PE

Equip-ment ID No.	A, M, R [1]	Year [2]	Description	Maximum Rated Throughputs		Control Equip-ment [2]	Associated Transfer Points		
				TPH	TPY x 10^{3} [4]		Location: B -Before A -After	ID. No.	Control Equip-ment [2]
MC14B	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP52 TP53	PE PE
MC14C	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP53 TP54	PE FE
MC16A	M	2005	Raw Coal Silo Reclaim Conveyor	2,000	5,600	PE	B B A	TP56 TP57 TP58	FE FE PE
MC16B	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP58 TP59	PE PE
MC16C	M	2005	Raw Coal Belt Conveyor	2,000	5,600	PE	B A	TP59 TP60	PE FE
MS3	M	2005	Raw Coal Silo 20, 000 ton capacity	---	5,600	FE	B B A	TP60 TP54 TP55	FE FE FE
MC15	M	2005	Raw Coal Silo Reclaim Conveyor	1,400	5,600	PE	B A	TP55 to Prep Plant	FE NA
Synfuel Circuit									
Bin 3	M	2001	Synfuel / Raw Coal Dump Bin	NA	NA	PE/WS	B A	TP-25A TP-25	N FE
Bin 4	M	2001	Synfuel / Raw Coal Dump Bin	NA	NA	PE/WS	B A	TP-26B TP-26	N FE
BC-19	M	2001	Synfuel / Raw Coal Belt Conveyor	1,200	4,800	PE	B B A	TP-25 TP-26 TP-27	FE FE FE
CR-1	M	2001	Synfuel / Raw Coal Crusher	1,200	4,800	FE	B A	TP-27 TP-28	FE WS
BC-20	M	2001	Synfuel / Raw Coal Belt Conveyor	1,200	4,800	PE	B A	TP-28 TP-29	WS FE
BC-18	M	2001	Synfuel / Raw Coal Belt Conveyor	2,900	10,000	PE	B A	TP-29 TP-23	FE TC
Open Stockpiles									
SP1	M	2005	"2 North Area" - Raw Coal Open Stockpile 100,000 tons, 75,000 ft^2	---	5,600	N	B B A A	TP33B TP40 TP35C TP38	PE N FE FE
OS-1	M	2001	Raw Coal Open Stockpile 75,000 tons, 56,192 ft^2	NA	3,200	WS	B A	TP-17 TP-18	PE PE
OS-2	M	2001	Clean Coal Open Stockpile 312,000 tons, 320,000 ft^2	NA	3,600	WS	B A A	TP-21 TP-22 TP-30	MC UC WS
OS-3	M	2001	Synfuel / Raw Coal Open Stockpile 468,000 tons, 480,000ft^2	NA	3,500	WS	B A A	TP-24 TP-25A TP-26B	WS N N
ROS-1	M	2007	Clean Coal Open Stockpile 30,000 tons, 62,800 ft^2	NA	3,600	ST	B B A	TP--1R TP-2R TP-3R	PE PE FE
OS-4	R	2009	Raw Coal Open Stockpile 100,000 tons, 80,150 ft^2	NA	500	WS	B A A	TP-24 TP-25A TP-26B	WS N N
OS-5	M	2001	Raw Coal Open Stockpile 25,000 tons, 58,750 ft^2	NA	800	WS	B A	TP-5A TP-5B	WS N
Magnetite Processing Circuit									
S-MP2	M	2008	Barge Excavator - 275 hp	75	100	NA	B A	NA NA	NA
H-MP1	M	2008	Excavator Clam Dump Bin	75	100	PE	B A	TP-MP1 TP-MP1A	PE PE

Equip-ment ID No.	A, M, R [1]	Year [2]	Description	Maximum Rated Throughputs		Control Equip-ment [2]	Associated Transfer Points		
				TPH	TPY x 10^{3} [4]		Location: B -Before A -After	ID. No.	Control Equip-ment [2]
BC-MP1	M	2008	Magnetite Conveyor	75	100	PE	B A	TP-MP1A TP-MP2	PE PE
H-MP2	M	2008	Transfer Hopper	75	100	PE	B A	TP-MP2 TP-MP2A	PE PE
BC-MP2	M	2008	Magnetite Conveyor	75	100	PE	B A	TP-MP2A TP-MP3	PE FE
CS-MP1	M	2008	Enclosed Magnetite Stockpile 3,750 ft^2	NA	100	FE	B A	TP-MP3 TP-MP4	FE FE
CS-MP2	A	2009	Enclosed Magnetite Stockpile 6,000 ft^2	NA	100	WS-FE	B A	TP-MP9 TP-MP4	FE FE
H-MP3	M	2009	Transfer Hopper	30	100	FE	B A	TP-MP4 TP-MP4A	FE FE
BC-MP3	M	2008	Magnetite Conveyor	30	100	FE	B A	TP-MP4A TP-MP4B	FE FE
H-MP4	M	2008	Feed Bin	30	100	FE	B A	TP-MP4B Dryer	FE FE
S-MP1	M	2008	Standard Havens Direct Heat Dryer with Kauck Model SJ-150 Starjet Burner rated at 27.9 MMBtu/hr - burns natural gas only - dries magnetite from 10% to 0.5% moisture content	30	100	FE	B A	Feed Bin Cyclone	FE Baghouse
C-MP1	M	2008	Baghouse - Airlanco Model No. 240ATD10 Pulse Jet Filter 99.9 % guaranteed control efficiency	NA	NA	NA	B A A	Cyclone TP-MP4E Stack Vent	FE FE Atmosphere
C-MP2	M	2008	Cyclone Used to pneumatically convey dried magnetite from the dryer to the screw conveyor	NA	NA	NA	B A A	Dryer TP-MP4E Baghouse	FE FE FE
S-MP4	M	2009	Scalping Screen	30	100	FE	B A	Dryer TP-MP4C	FE FE
SC-MP1	M	2009	Screw Conveyor	30	100	FE	B A	TP-MP4C TP-MP4D	FE FE
H-MP5	M	2009	Transfer Hopper	30	100	FE	B A	TP-MP4D TP-MP4E	FE FE
SC-MP2	M	2009	Screw Conveyor	30	100	FE	B A	TP-MP4E TP-MP4F	FE FE
BE-MP1	M	2009	Bucket Elevator	30	100	FE	B A	TP-MP4F TP-MP4G	FE FE
AS-MP1	M	2009	Air Slide	30	100	FE	B A A	TP-MP4G TP-MP5 TP-MP6	FE FE FE
BS-MP1	M	2008	Loadout Bin 300 ton capacity	30 in 300 out	100	FE	B A	TP-MP5 TP-MP7	FE FE
BS-MP2	M	2008	Loadout Bin 300 ton capacity	30 in 300 out	100	FE	B A	TP-MP6 TP-MP8	FE FE

[1] A - Addition; M - Modification; R - Removal (Existing unmodified equipment to be included in the permit is labeled with an M).

[2] In accordance with 40 CFR 60 Subpart Y, coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems constructed, reconstructed, or modified on or before April 28, 2008 shall not discharge gases which exhibit 20 percent opacity or greater. Coal processing and conveying equipment, coal storage systems, and coal transfer and loading systems constructed, reconstructed, or modified after April 28, 2008 shall not discharge gases which exhibit 10 percent opacity or greater. For open storage piles constructed, reconstructed, or modified after May 27, 2009, the permittee shall prepare and operate in accordance with a fugitive coal dust emissions control plan that is appropriate for site conditions.

[3] FE - Full Enclosure; PE - Partial Enclosure; MC - Moisture Content; WS - Water Sprays; N - None; UC - Underbin Conveyor; ST - Stacking Tube; TC - Telescopic Chute; BH - Baghouse

[4] Value X 1,000

SITE INSPECTION

On November 21, 2013, a site inspection was performed by James Jarrett of the DAQ's Compliance and Enforcement Section. Mr. Jarrett's notes from the inspection were as follows: "Two (2) crushers and a raw coal scapling screen are not listed in the permit. The plant is operating without a Title V Operating Certificate." Based on the results of the inspection, the facility was given a status code of 10: Out of Compliance. Fred Teel has been assigned to inspect the facility.

Directions from Charleston are to take US Route 60 East toward Montgomery and the facility is located on the right approximately one mile before Smithers and the exit/bridge to Montgomery.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, crushing and screening, storage piles, and paved and unpaved haulroads are based on AP-42 "Compilation of Air Pollution Emission Factors." Control efficiencies were applied based on "Calculation of Particulate Matter Emission - Coal Preparation Plants and Material Handling Operations." The emission factors for crushing/breaking and screening operations were obtained from the Air Pollution Engineering Manual - Air & Waste Management Association - June 1992. Emissions calculations were performed by the applicant's consultant and were checked for accuracy by the writer.

The proposed modification will result in an increase in the facility's potential to discharge controlled particulate matter emissions of 3.44 pounds per hour (lb/hour) and 3.87 tons per year (TPY) of particulate matter (PM), of which 3.16 lb/hour and 3.85 TPY will be particulate matter less than 10 microns in diameter (PM_{10}) and 3.11 lb/hour and 3.85 TPY will be particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). Refer to the following table for a complete summary of the facility's proposed increase in the potential to discharge:

- Increase in Emissions - **Jacks Branch Coal Company Mammoth Preparation Plant**	**Controlled PM Emissions**		**Controlled PM_{10} Emissions**		**Controlled $PM_{2.5}$ Emissions**	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions						
Open Storage Pile Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Haulroad Emissions	0.35	0.02	0.07	0.003	0.02	0.001
Paved Haulroad Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Emissions Total	*0.35*	*0.02*	*0.07*	*0.003*	*0.02*	*0.001*
Point Source Emissions						
Equipment Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Transfer Point Emissions	3.09	3.85	3.09	3.85	3.09	3.85
Point Source Emissions Total (PTE)	*3.09*	*3.85*	*3.09*	*3.85*	*3.09*	*3.85*

INCREASE IN EMISSIONS	**3.44**	**3.87**	**3.16**	**3.85**	**3.11**	**3.85**

The potential to discharge pollutants from the diesel engine for the excavator and the natural gas fired dryer as permitted within Application R13-1975D and are as follows: 11.27 pounds per hour (PPH) and 3.38 TPY of NO_X, 4.14 PPH and 2.44 TPY of CO, 8.29 PPH and 0.76 TPY of VOC, 0.58 PPH and 0.058 TPY of SO_2.

From file research, the following information was gathered in order calculate the new estimated potential to discharge controlled particulate matter emissions as follows:

Permit No.	Approval Date	Type of Application	Permitted Emission Rates [1]			
			PM		PM_{10}	
			lb/hr	TPY	lb/hr	TPY
R13-1975A	2/11/03	Modification	30.40	66.27	14.07	30.71
R13-1975B	1/17/06	Modification	+19.47	+27.00	+9.27	+12.86
R13-1975C	9/14/07	Class II Update	+5.20	+3.92	+2.48	+1.87
R13-1975D [2]	2/19/09	Modification	+19.44	+21.31	+14.90	+15.30
R13-1975E [3]	6/18/09	Class II Update	+4.01	+12.22	+4.01	+12.22
R13-1975F	10/9/09	Class II Update	+0.28	+0.79	+0.28	+0.79
R13-1975H	proposed	Class II Update	+3.44	+3.87	+3.16	+3.85
New Facility Emissions Total			**82.24**	**135.38**	**48.17**	**77.60**

(1) The permitted emissions rates for R13-1975A are the totals for the facility. The emission rates for R13-1975B, R13-1975C, R13-1975D, R13-1975E, R13-1975F and R13-1975H are the increases in emissions.

(2) These emission rates include the PM and PM_{10} emissions from the operation of the diesel engine and natural gas fired dryer.

(3) These emission rates from the additional transfer points are based on Emission factors obtained from AP-42 5th Edition -Chapter 11.24 - Metallic Minerals Processing, Table 11.24-2, Low Moisture Ore

REGULATORY APPLICABILITY

NESHAPS, NSPS and PSD have no applicability to the proposed modification. The proposed modification of Jacks Branch's existing coal preparation plant is subject to the following state and federal rules:

45CSR5 *To Prevent and Control Air Pollution from the Operation of Coal Preparation Plants, Coal Handling Operations and Coal Refuse Disposal Areas*

The facility's existing coal processing equipment is subject to the requirements of 45CSR5 because it meets the definition of "Coal Preparation Plant" found in subsection 45CSR5.2.4. The facility should be in compliance with Section 3 (less than 20% opacity), Section 4 (thermal dryer and stack requirements), and Section 6 (fugitive dust control system and dust control of the premises and access roads) when the particulate matter control methods and devices proposed within the permit applications are in operation.

45CSR7 *To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations*

The facility will be subject to the requirements of 45CSR7 because it will meet the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7B), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within the permit applications are in operation.

According to Table 45-7B, for a type 'a' source with a maximum process weight rate of 100,000 lb/hour, the maximum allowable emission rate is 33 lb/hour of particulate matter. The maximum allowable emission rate is 11.93 lb/hour of particulate matter (including all transfer points and the exhaust from the diesel engine and natural gas dryer) according to the estimated emissions in application and Fact Sheet R13-1975H.

45CSR10 *To Prevent and Control Air Pollution From the Emission of Sulfur Oxides*

It was determined through the agency that the operation of dryers are defined as manufacturing process source operations and not as fuel burning units within the definition and intent of Regulation 10 (45CSR10). Therefore, dryers must comply with Subsection 4.1, unless the potential to emit for sulfur oxides is less than 500 pounds per year. The estimated maximum potential to emit sulfur oxides for the heater is 120 pounds per year.

45CSR13 *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed modification is subject to the requirements of 45CSR13 because it will result in an increase in potential controlled emissions less than six (6) pounds per hour and ten (10) tons per year of a regulated air pollutant (PM and PM_{10}). Therefore, the proposed changes requires a Class II Administrative Update. The applicant published a Class I legal advertisement in *The Daily Mail* on March 13, 2015 and submitted $300 for the application fee.

45CSR16 *Standards of Performance for New Stationary Sources*
40 CFR 60 *Subpart Y: Standards of Performance for Coal Preparation Plants*

This facility is subject to 40 CFR 60 Subpart Y because it was constructed and modified after October 24, 1974 and processes more than 200 tons of coal per day. The proposed modification does not involve the construction of any equipment which are defined as

affected facilities and subject to 40 CFR 60 Subpart Y. Therefore, the proposed modification is not subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart Y - Standards of Performance for Coal Preparation Plants. However, the existing equipment at the facility remains subject to 40 CFR 60 Subpart Y. The facility should be in compliance with Section 254(a) (less than 20% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified on or before April 28, 2008) and Section 254(b) (less than 10% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified after April 28, 2008) when the particulate matter control methods and devices proposed are in operation.

The owner or operator of an open storage pile, which includes the equipment used in the loading, unloading, and conveying operations of the affected facility, constructed, reconstructed, or modified after May 27, 2009, must prepare and operate in accordance with a submitted fugitive coal dust emissions control plan that is appropriate for the site conditions. The fugitive coal dust emissions control plan must identify and describe the control measures the owner or operator will use to minimize fugitive coal dust emissions from each open storage pile. The plan must be submitted to the Director prior to startup of the new, reconstructed or modified open storage pile.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, the modification of this wet wash coal preparation plant is not listed in 45CSR30 subsection 2.26.b as one of the categories of stationary sources which must include fugitive emissions (open storage piles constructed or modified on or before May 27, 2009 and haulroads) when determining whether it is a major stationary source for the purposes of § 302(j) of the Clean Air Act. The facility's new potential to emit will be 77.60 TPY for PM_{10} (open storage piles constructed or modified after May 27, 2009 and point sources combined), which is less than the 45CSR30 threshold of 100 TPY of a regulated air pollutant used to define a major stationary source. Therefore, the facility will be subject to 45CSR30 and remain classified as a Title V deferred non-major source.

The proposed modification of Jacks Branch Coal Company's Mammoth Preparation Plant is not subject to the following state and federal rules:

45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration

In accordance with 45CSR14 Major Source Determination, this coal preparation plant is not one of the 100 TPY stationary sources listed under the definition of "Major Stationary Source" in subsection 2.43.a. Therefore, it must have the potential to emit 250 TPY or more of any regulated pollutant to meet the definition of a major source in subsection 2.43.b. At the end of subsection 2.4.3, this facility is not listed in Table 1 - Source Categories Which Must Include Fugitive Emissions. So, fugitive emissions (from open storage piles

constructed or modified on or before May 27, 2009 and haulroads) are not included when determining major stationary source applicability. The facility's new potential to emit will be 135.38 TPY for PM (open storage piles constructed or modified after May 27, 2009 and point sources combined), which is less than the 45CSR14 threshold of 250 TPY for a regulated air pollutant used to define a major stationary source. Therefore, the proposed construction is not subject to the requirements set forth within 45CSR14.

45CSR16 *Standards of Performance for New Stationary Sources*
40 CFR 60 *Subpart LL: Standards of Performance for Metallic Mineral Processing Plants*

A "metallic mineral processing plant" is defined in Subpart LL as "any combination of equipment that produces metallic mineral concentrates from ore." A "metallic mineral concentrate" is defined in Subpart LL as a material containing metallic compounds in concentrations higher than naturally occurring in ore but requiring additional processing if pure metal is to be isolated. The definition specifies the metals covered by the standard, which includes iron.

As indicated in Sec. 60.380(a), Subpart LL applies to affected facilities which are located in metallic mineral processing plants. Since the proposed facility will not produce metallic mineral concentrate from ore, nor is there any equipment at the site capable of producing a metallic mineral concentrate from ore, the site does not meet the definition of a metallic mineral processing plant. Therefore, the proposed magnetite processing facility which will dry magnetite from 10% moisture content to 0.5% will not be subject to Subpart LL.

The writer researched the US EPA Applicability Determination Index website found at http://cfpub.epa.gov/adi/ and searched under the category "NSPS" and subpart "Part 60, LL - Metallic Mineral Processing Plants." The results produced a similar situation found within the first listing Control Number 0500026 dated March 2, 2005.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the main pollutants being emitted from this facility will be PM (particulate matter) and PM_{10} (particulate matter less than 10 microns in diameter), which are non-toxic pollutants, and the normal products of combustion from the diesel engine and natural gas dryer in small quantities and as such, should not pose any adverse health effects to the general public.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the modifications proposed. This facility is located in Kanawha County, WV, which is currently in attainment for PM (particulate matter), PM_{10} (particulate matter less than 10 microns in diameter) SO_2 (sulfur dioxide), and CO (carbon monoxide).

MONITORING OF OPERATIONS

For the purposes of determining compliance with maximum throughput limits, the applicant shall maintain certified daily and monthly records. Example forms are included as Appendices A and B to Permit R13-1975H. An example form for tracking the amount of water applied by the water truck is included as Appendix C to Permit R13-1975H. An example form for the Monthly Opacity Testing is included as Appendix D to Permit R13-1975H. The Certification Of Data Accuracy statement shall be completed within fifteen (15) days of the end of the reporting period. These records shall be maintained on-site for at least five (5) years and be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in this permit application for a Class II administrative update indicates that compliance with all applicable regulations should be achieved when all of the proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. Therefore, the granting of a permit to Jacks Branch Coal Company for the modification of an existing coal preparation plant located adjacent to US Route 60 approximately 1.0 miles west of Smithers, Kanawha County, WV is hereby recommended.

Daniel P. Roberts, Engineer Trainee
NSR Permitting Section

January 26, 2017
Date